
Standard Practice for Evaluation of Precast Concrete Drainage Products

AASHTO Designation: R 73-16¹ (2020)

Technical Subcommittee: 4a, Concrete Drainage Structures

Release: Group 2 (June)



**American Association of State Highway and Transportation Officials
555 12th Street NW, Suite 1000
Washington, D.C. 20004**

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1. SCOPE

- 1.1. This standard practice describes the evaluation of precast concrete pipe, box culverts, manholes, and drainage inlets. This standard also describes criteria for acceptable products, repairable products, and the rejection of defective products. All repairs shall conform to the criteria found in this document or to contract documents as applicable.
- 1.2. This standard practice is applicable to storm water management precast concrete products, manufactured by both the wet cast and dry cast production methods, after curing and prior to installation.
- 1.3. This standard practice covers the inspection of finished products manufactured per M 86M/M 86, M 170, M 199M/M 199, M 206M/M 206, M 207M/M 207, M 242M/M 242, M 259, and M 273; and ASTM C443, C858, C913, C985, C1417, C1433, C1504, and C1577.
- 1.4. *Evaluation guidelines are included for the following conditions:*
 - cracks,
 - manufacturing defects, and
 - damaged ends.
- 1.5. This standard practice is not intended for the evaluation of installed precast concrete pipe, box culverts, three-sided structures, manholes, drainage inlets, or other precast products.

2. REFERENCED DOCUMENTS

- 2.1. *AASHTO Standards:*
 - M 86M/M 86, Nonreinforced Concrete Sewer, Storm Drain, and Culvert Pipe
 - M 170, Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe
 - M 199M/M 199, Precast Reinforced Concrete Manhole Sections
 - M 206M/M 206, Reinforced Concrete Arch Culvert, Storm Drain, and Sewer Pipe
 - M 207M/M 207, Reinforced Concrete Elliptical Culvert, Storm Drain, and Sewer Pipe
 - M 242M/M 242, Reinforced Concrete D-Load Culvert, Storm Drain, and Sewer Pipe
 - M 259, Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers
 - M 273, Precast Reinforced Concrete Box Sections for Culverts, Storm Drains, and Sewers with Less Than 2 ft of Cover Subjected to Highway Loadings

- 2.2.

- C443, Standard Specification for Joints for Concrete Pipe and Manholes, Using Rubber Gaskets
- C858, Standard Specification for Underground Precast Concrete Utility Structures
- C913, Standard Specification for Precast Concrete Water and Wastewater Structures
- C985, Standard Specification for Nonreinforced Concrete Specified Strength Culvert, Storm Drain, and Sewer Pipe
- C1417, Standard Specification for Manufacture of Reinforced Concrete Sewer, Storm Drain, and Culvert Pipe for Direct Design
- C1433, Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers
- C1504, Standard Specification for Manufacture of Precast Reinforced Concrete Three-Sided Structures for Culverts and Storm Drains
- C1577, Standard Specification for Precast Reinforced Concrete Monolithic Box Sections for Culverts, Storm Drains, and Sewers Designed According to AASHTO LRFD

3.1.

0.01-in. crack—the crack has reached 0.01 in. in width when the point of the measuring gauge shown in Figure 1 will, without forcing, penetrate $\frac{1}{16}$ in. at close intervals throughout the 12 in. in length as shown in Figure 2.

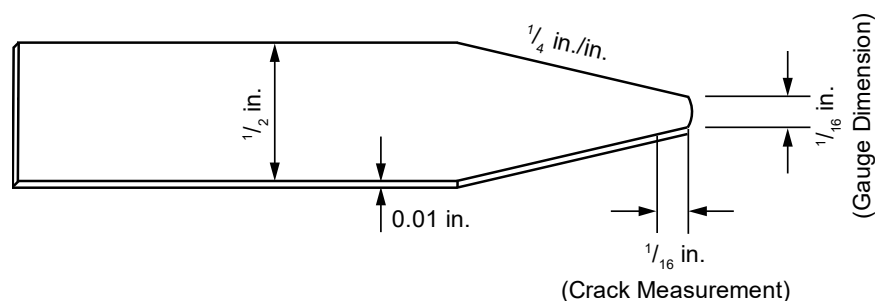


Figure 1—Measuring/Leaf Gauge; Gauge Made from Machinist Leaf of 0.01 in. in Thickness, Ground to a Rounded Point of $\frac{1}{16}$ in. in width with a taper of $\frac{1}{4}$ in./in. (Courtesy of ACPA)